POWERMAX® [ˈpou (ə)r ˈmaks] *noun:* a system designed to maintain stability

Niraj Shah
SPS Branch of SEL Engineering Services Inc.

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Agenda

- POWERMAX – Power Management System Introduction
- POWERMAX – Functionalities (IDDS, LSP, GCS, A25A)
- POWERMAX – Simulators
- MOTORMAX – LV Motor Management System Introduction

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- powerMAX – Power Management System Introduction
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- motorMAX – LV Motor Management System Introduction

POWERMAX Simulators

- Static simulator
- Simulator with load flow
- Simulator with playback
- Dynamic simulator (RTDS)

It is recommend to at least perform
a static simulator with load flow

PMS Simulator Rack

Main HMI Screen

Main HMI

LSP A

LSP B

Simulator HMI Screen

Simulator HMI

Simulator Platform

Real Time Digital Simulator (RTDS)

- Electromagnetic Transients Program (EMTP) simulator
- Advanced parallel processing techniques
- Power system state calculation every 50 μs
- Ability to perform closed-loop testing with physical protection and control devices in real-time

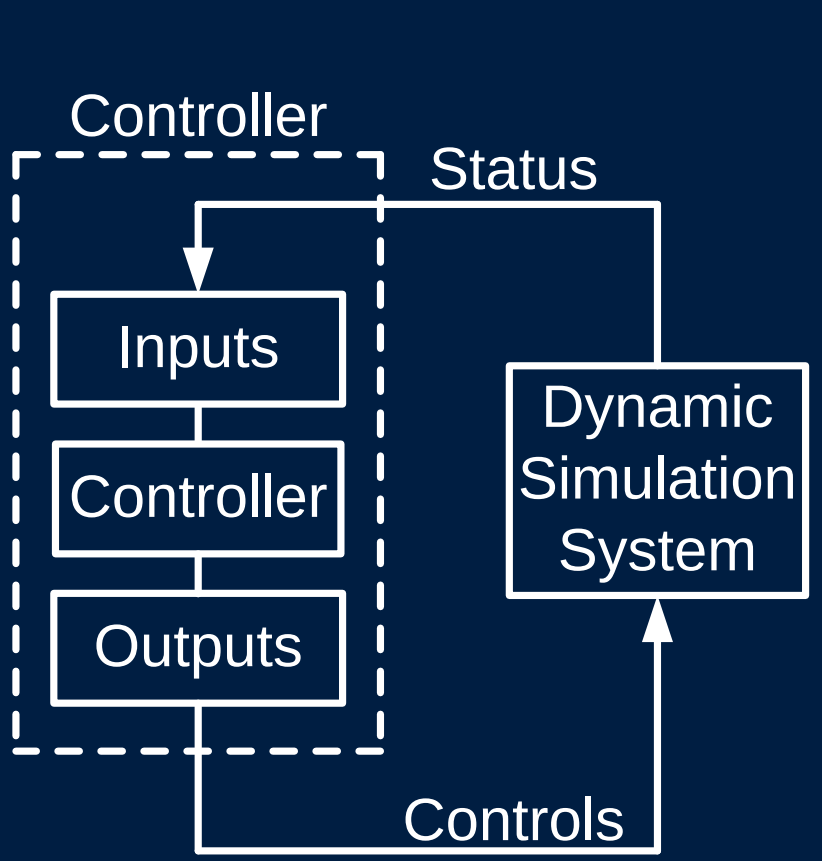
System Modeling and Testing Services

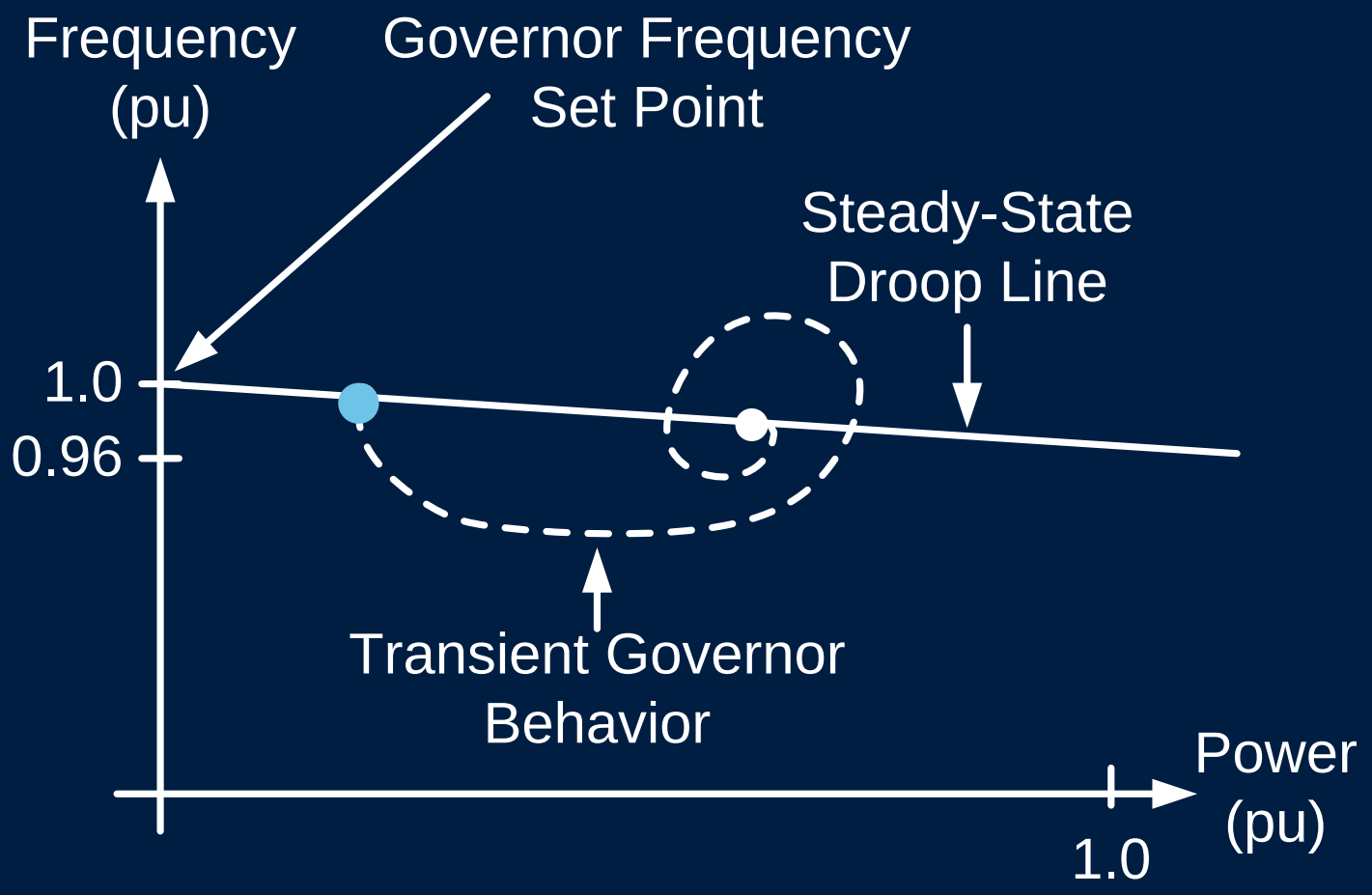
- Power system model development
- Load flow and short-circuit analysis
- Harmonic analysis
- Coordination studies
- Reports
- System protection scheme design, setting, and validation
- Inrush studies
- Frequency and voltage stability analysis

Dynamic Simulations Using Real-Time Simulator

- Combines detailed system model with real-time closed-loop testing
- Validates schemes’ functionality for speed and reliability
- Optimizes thresholds through test case iteration
- Improves understanding of system dynamics

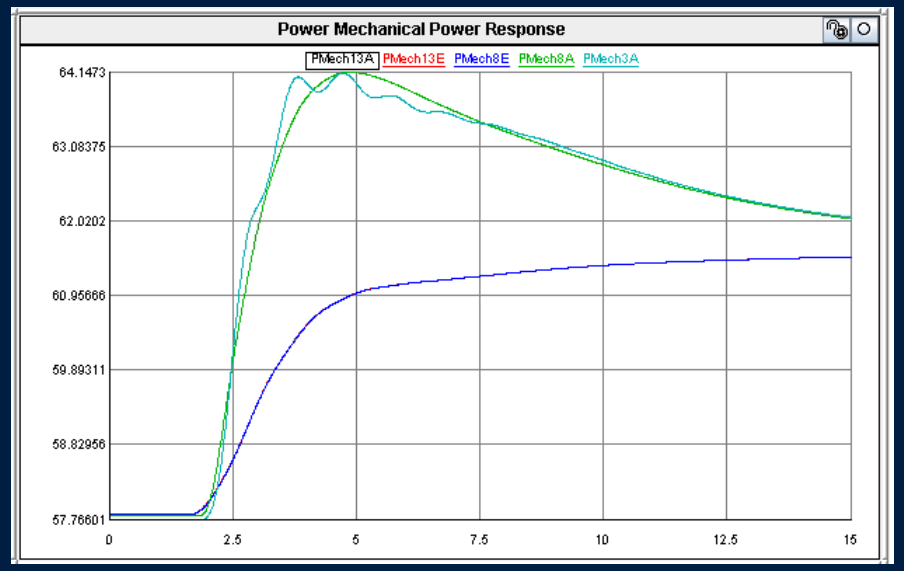
Control Cost, Quality, and Features With HIL Testing

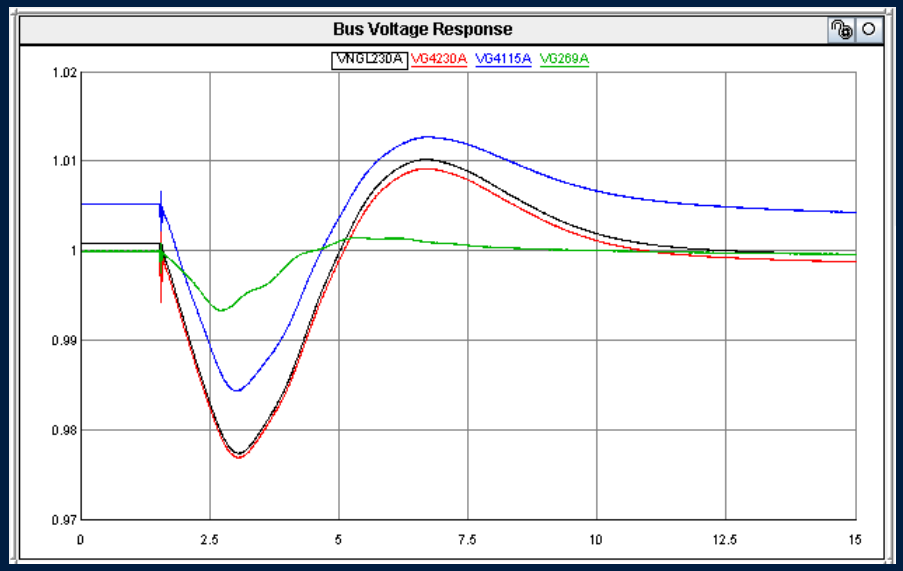


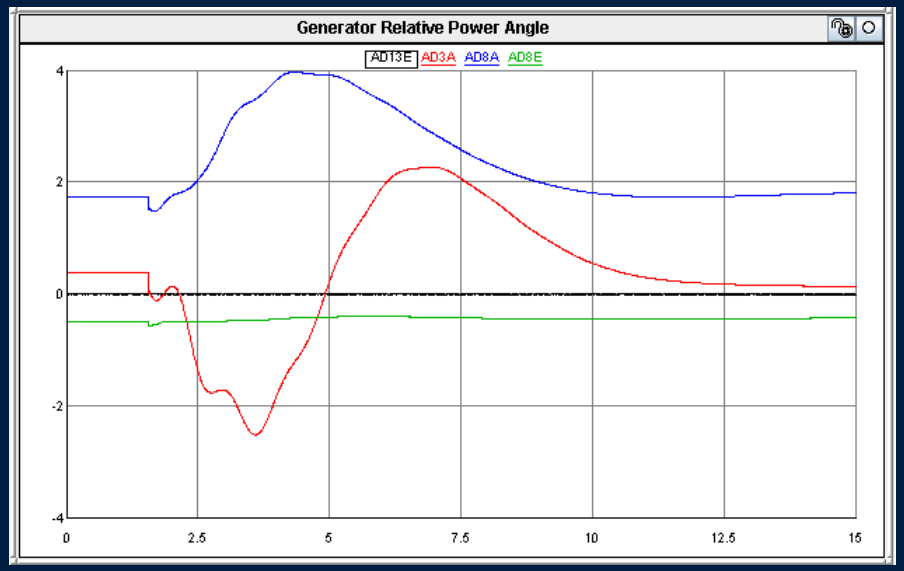


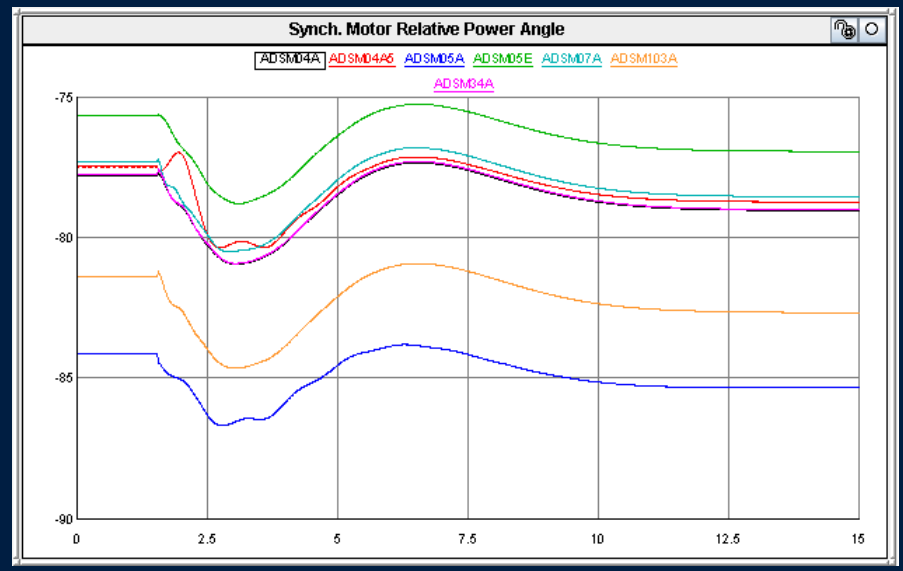
Both mechanical and electrical systems must be modeled accurately

Real-Time Interaction – System Dynamics

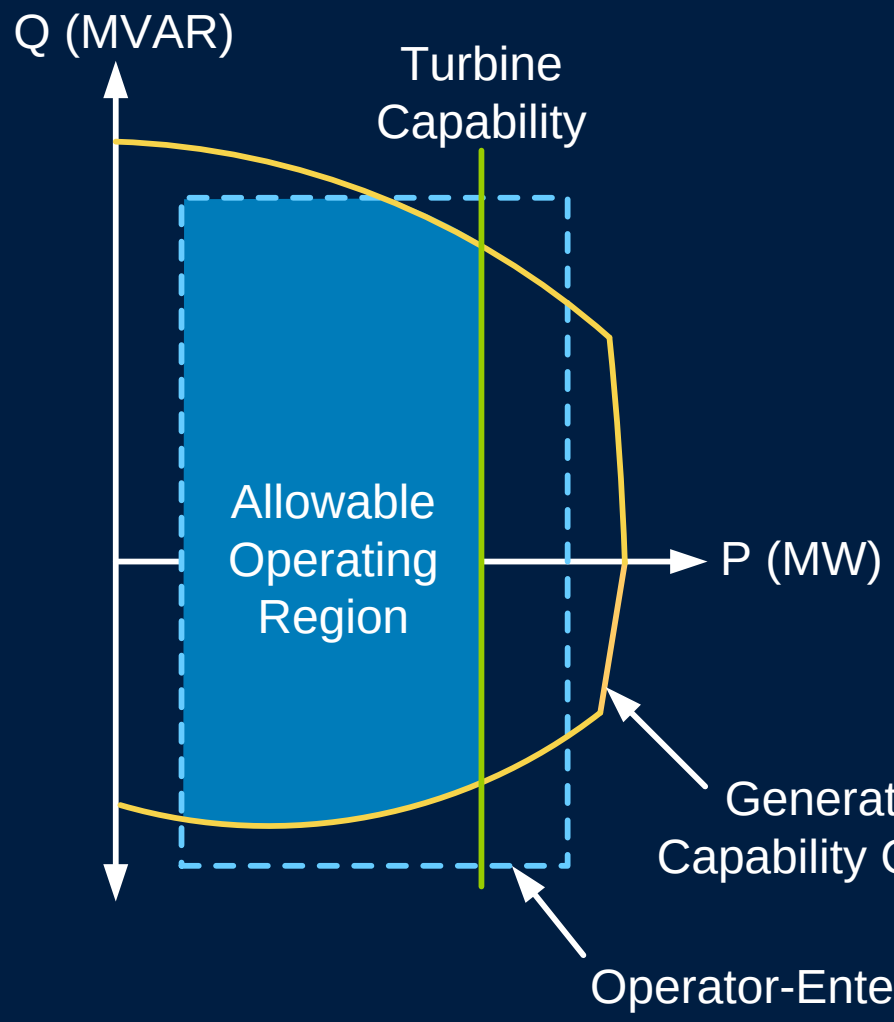


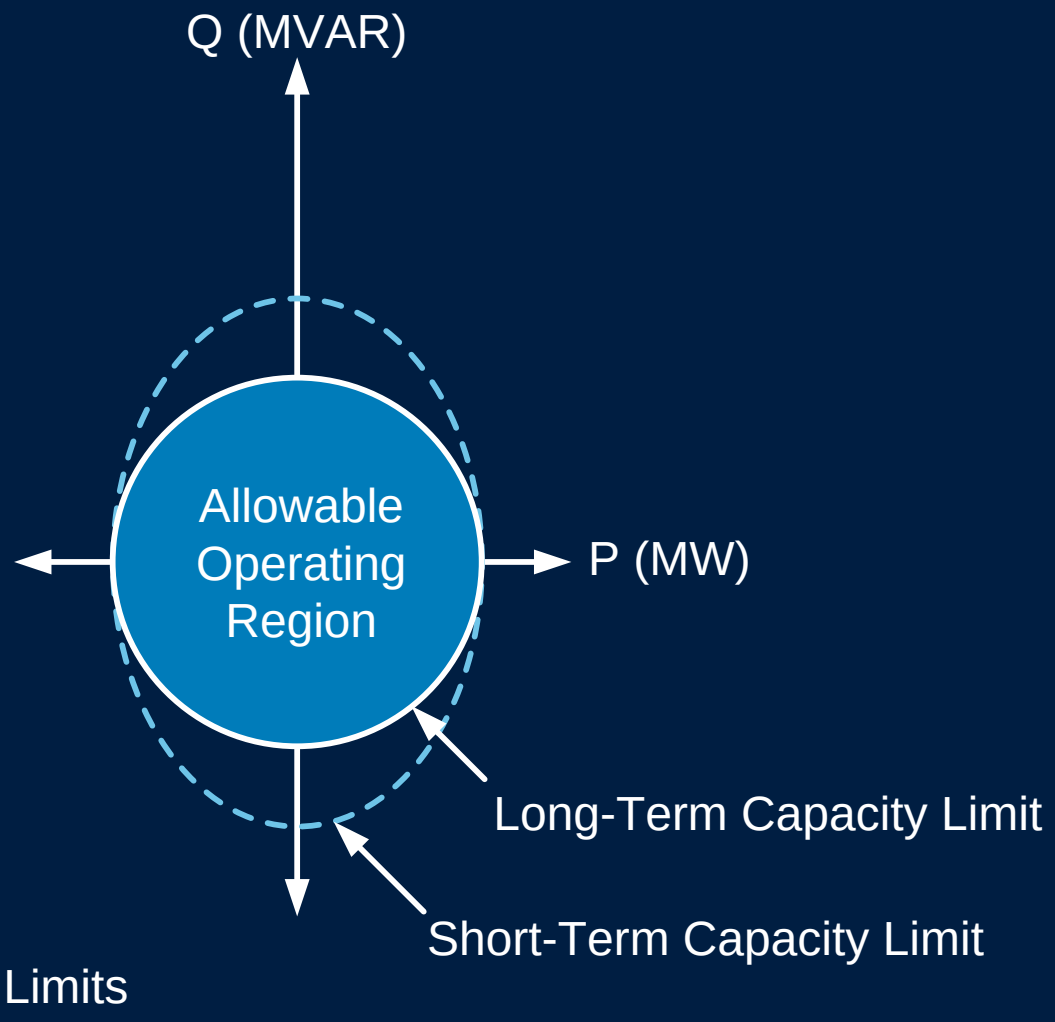






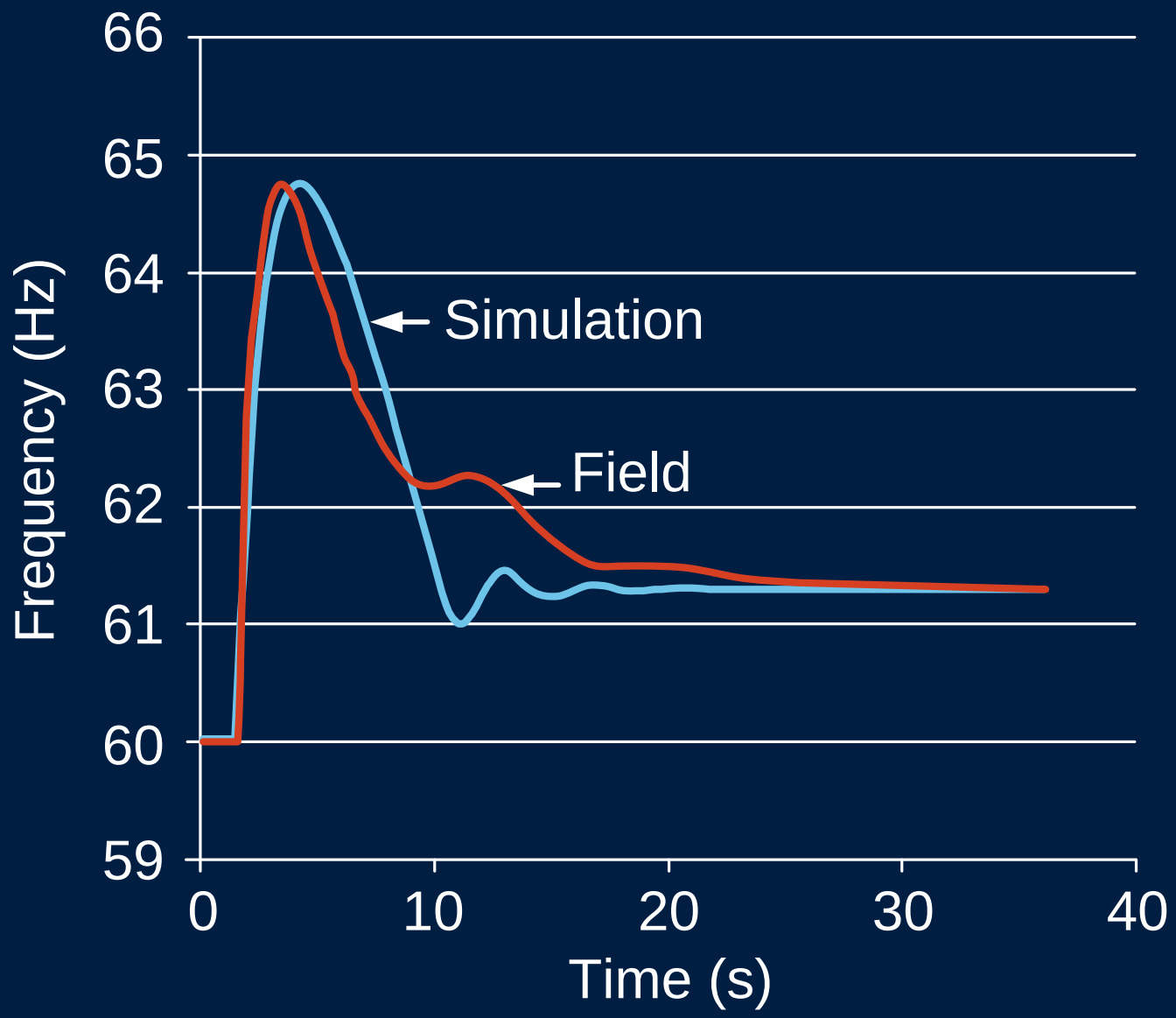
DER Capability Modeling





Hardware-in-the-Loop Testing

Fit for Function Modeling



Factory Acceptance Testing

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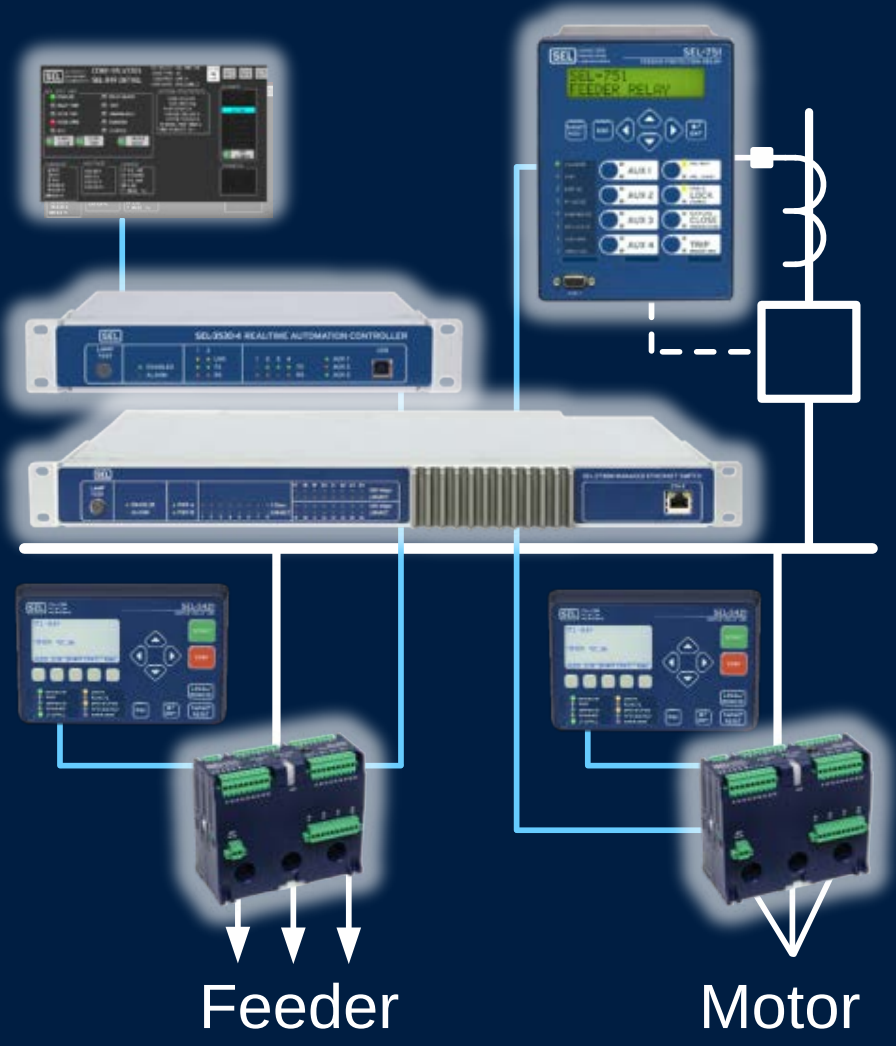
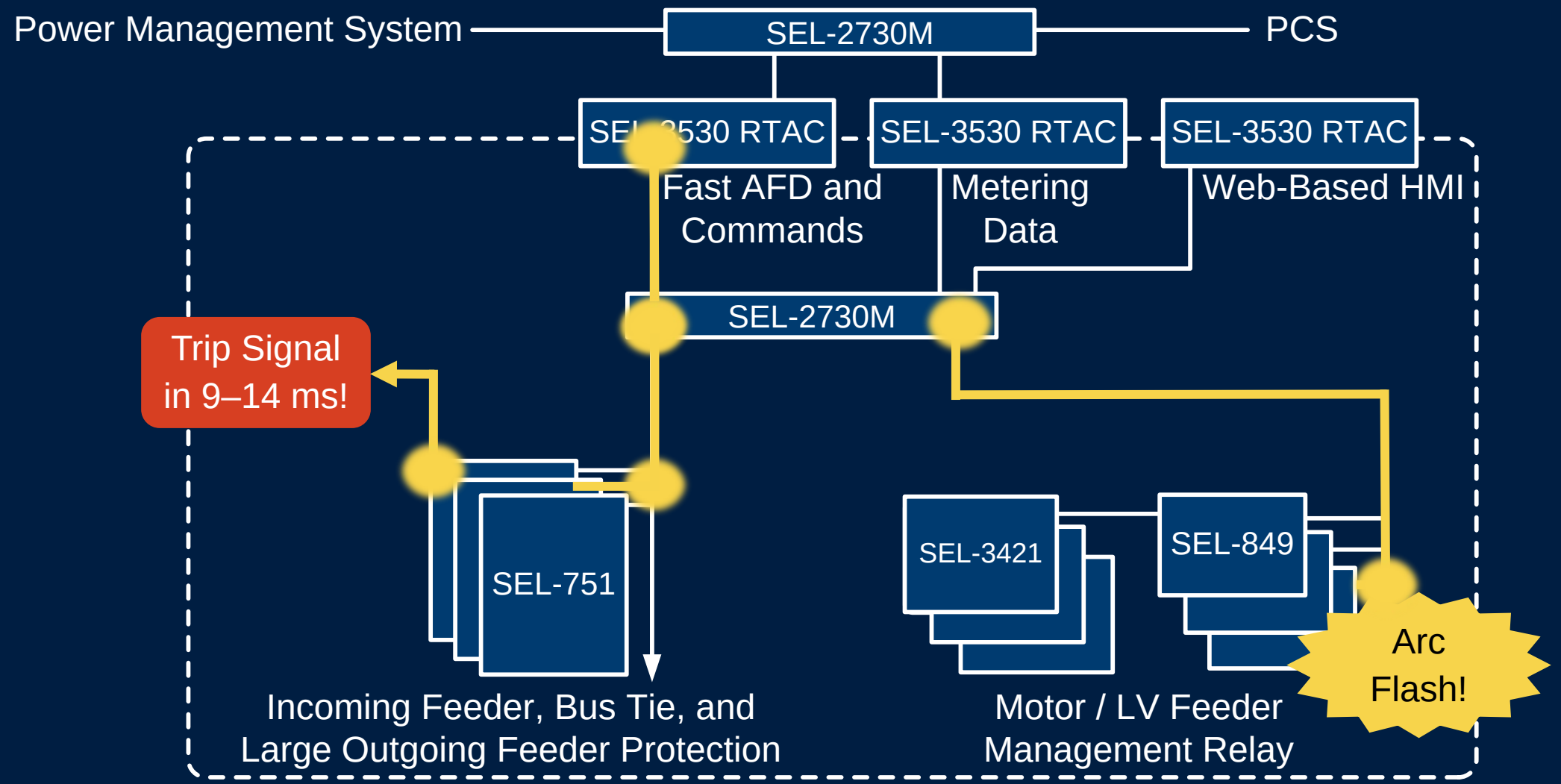
SEL MOTORMAX™ Redefines LV Motor Management

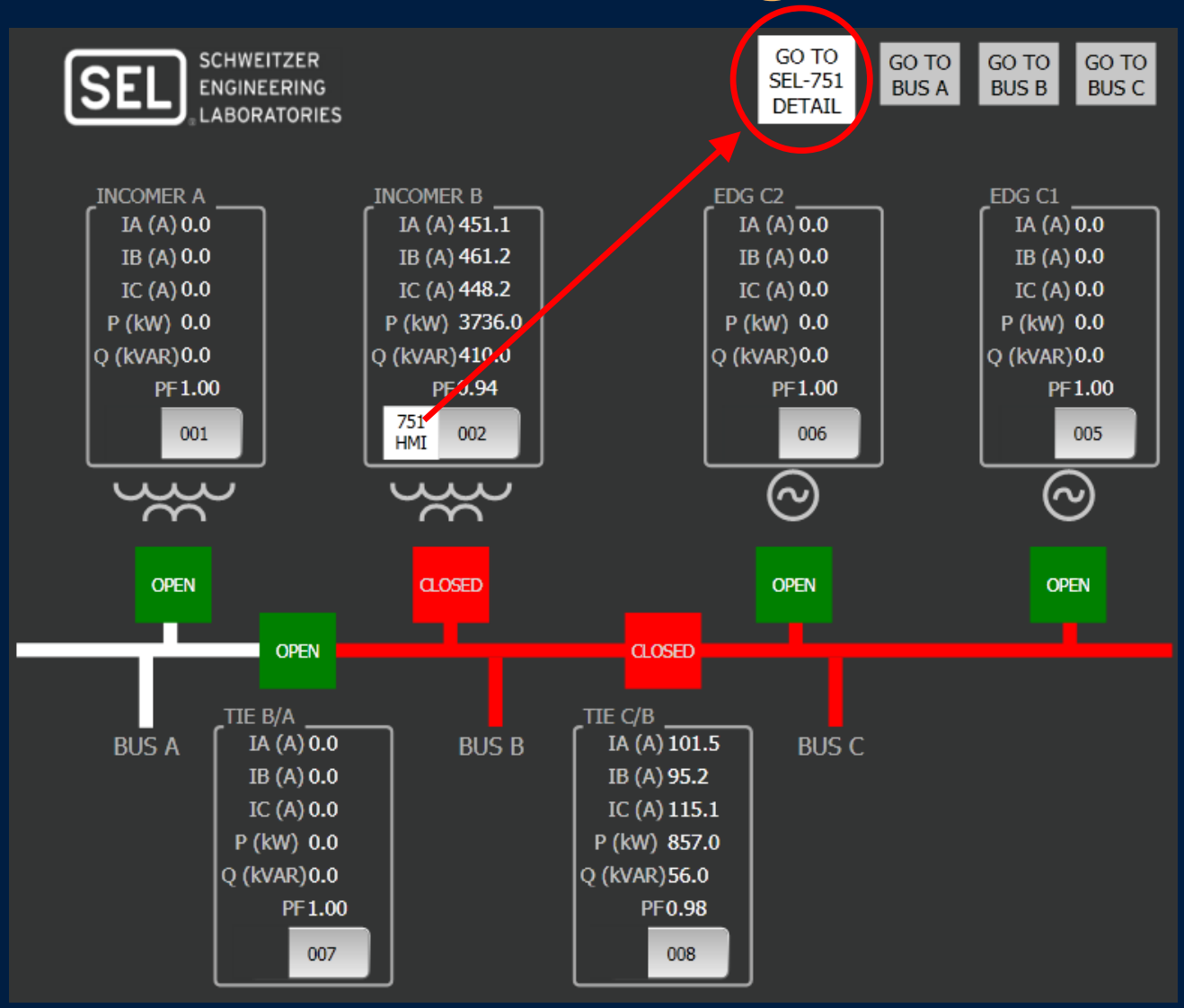
- SEL protection
- Complete HMI
- Arc-flash protection
- Remote management
- Scales for any size MCC
- Engineering tools
- 100% factory tested!



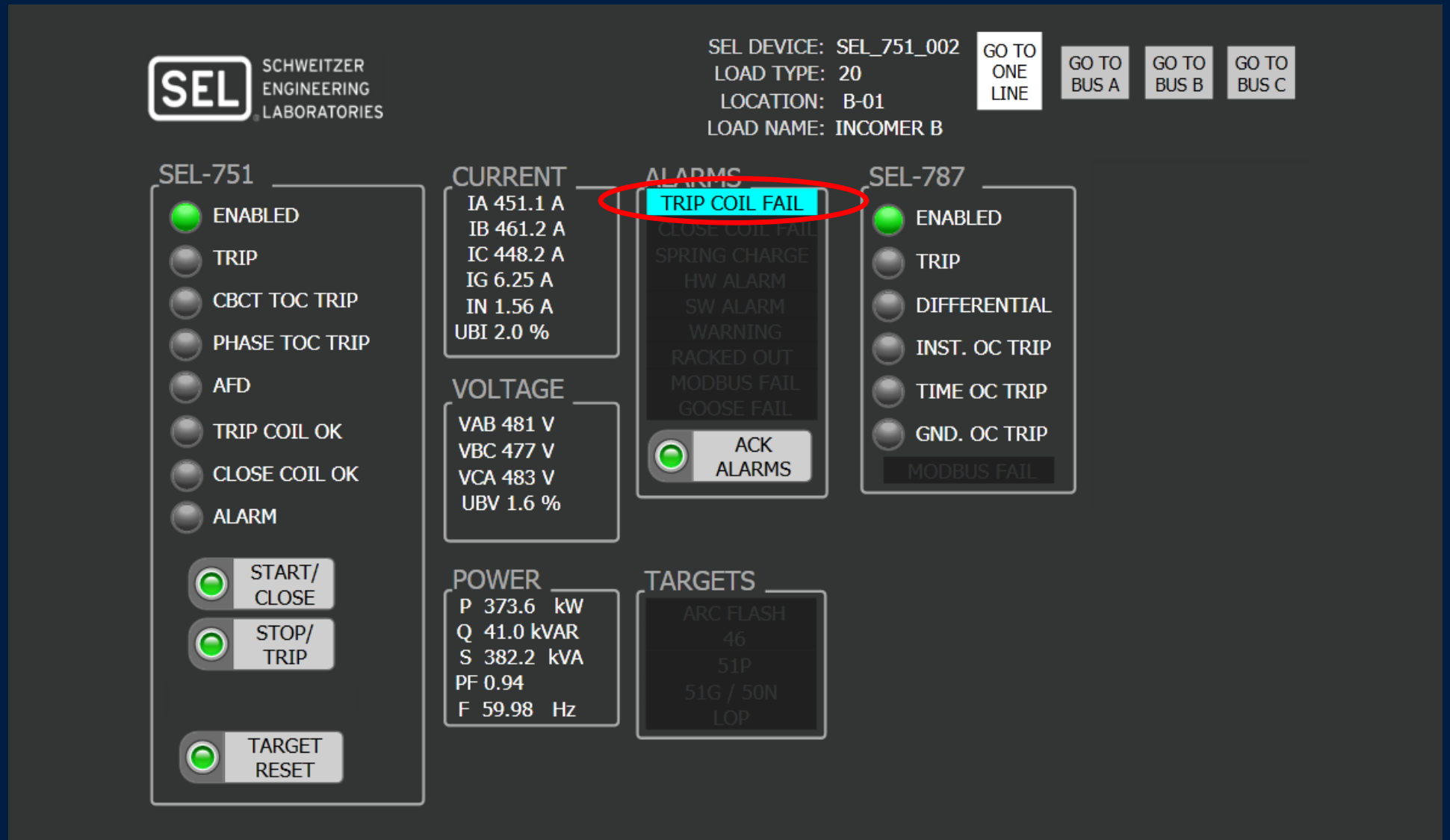
Eliminate Hard Wiring With One Ethernet Cable



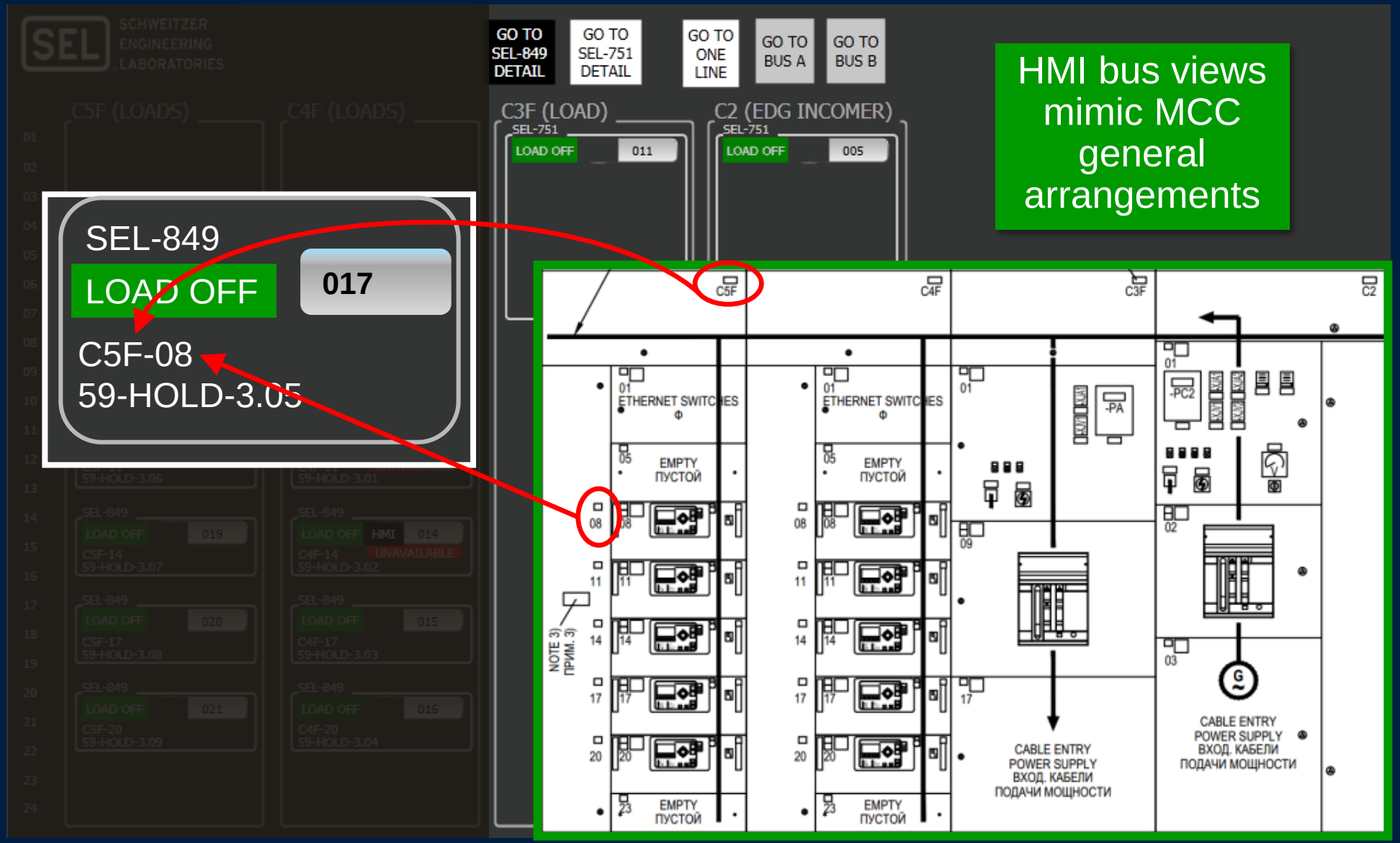
100% Situational Awareness With Intuitive One-Line Diagrams



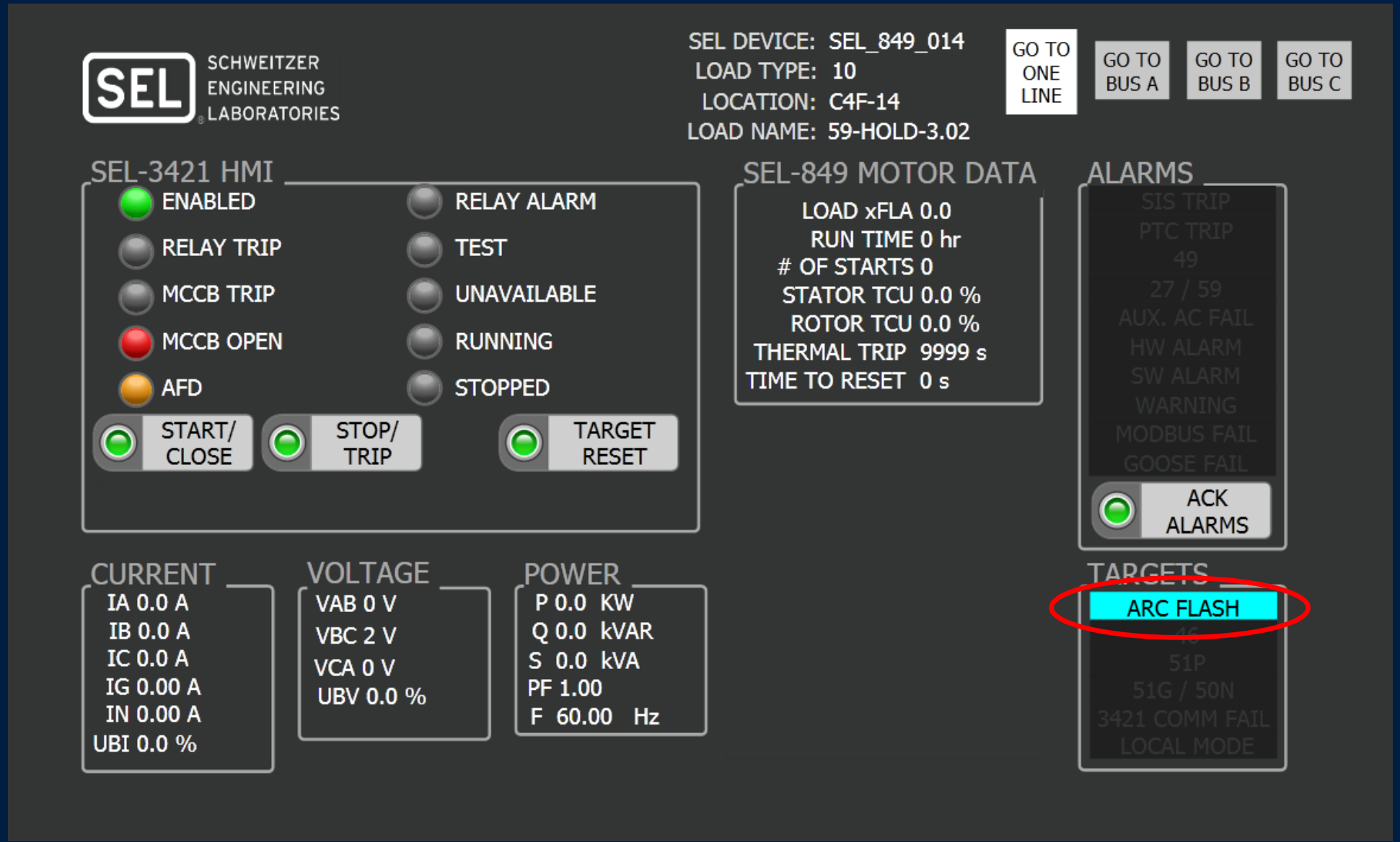
SEL-751 Detailed Pop-Up Screen Provides More Details



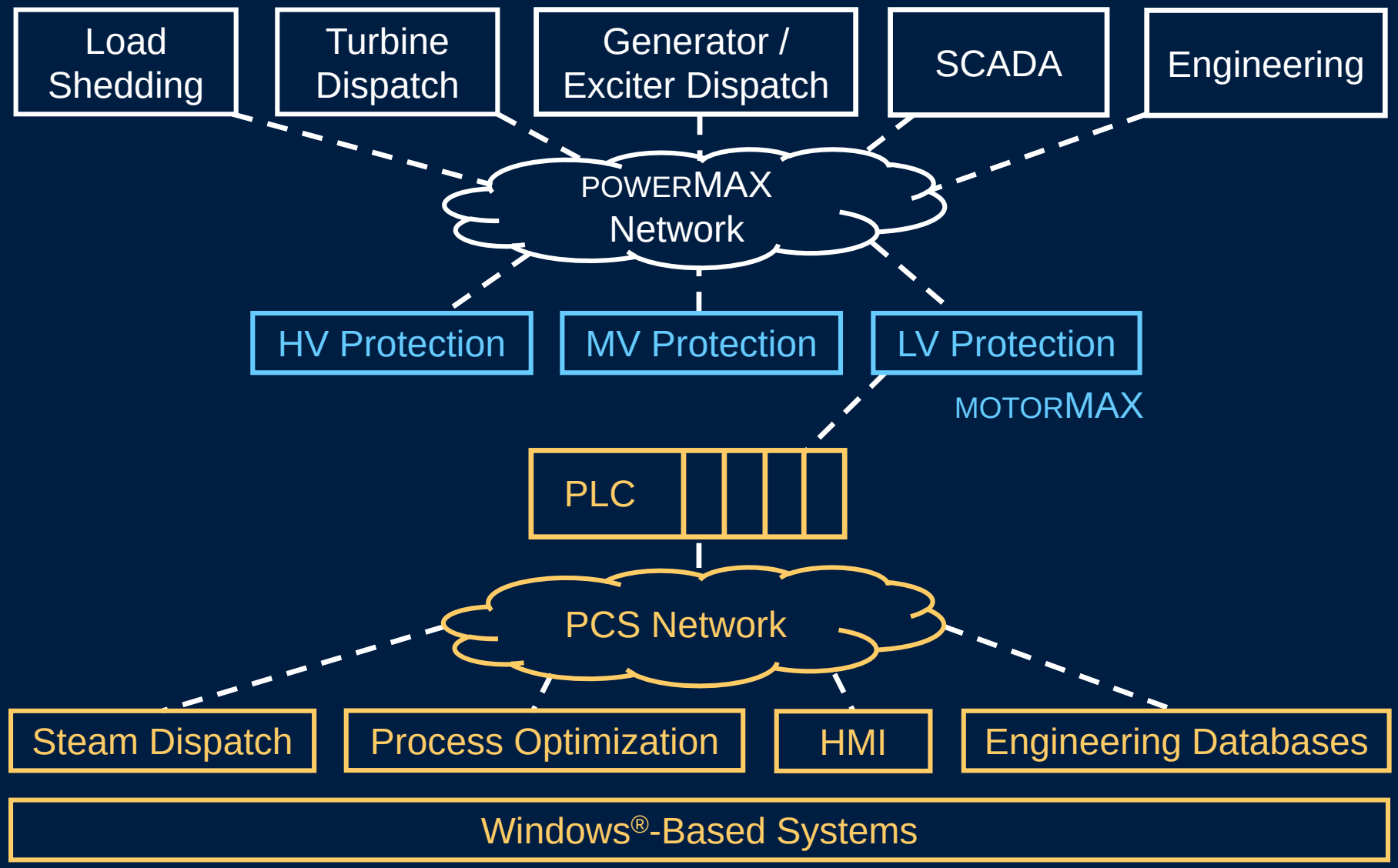
Safely Manage Motors Remotely



Summarizes Full SEL-849 Data Set



Linking Process Control to POWERMAX



Questions?